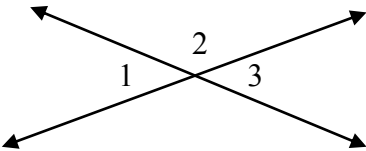


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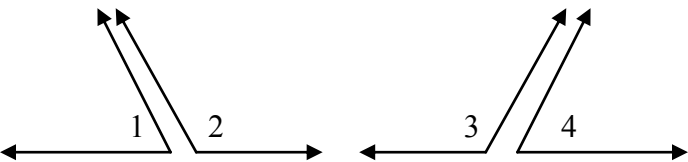
2.11 Angle Proof Multiple Choice Practice

- 1) **Given:** $\angle 1$ and $\angle 3$ are a linear pair
 $\angle 2$ and $\angle 3$ are a linear pair
Prove: $m\angle 1 = m\angle 2$



Statement	Reason	Multiple Choices
1. $\angle 1$ and $\angle 3$ are a linear pair $\angle 2$ and $\angle 3$ are a linear pair	1. _____	a. vertical angles theorem
2. $\angle 1$ and $\angle 3$ are supplementary $\angle 2$ and $\angle 3$ are supplementary	2. _____	b. linear pair postulate
3. $\angle 3 \cong \angle 3$	3. _____	c. substitution
4. $\angle 1 \cong \angle 2$	4. _____	d. congruent supplements theorem
5. $m\angle 1 = m\angle 2$	5. _____	e. congruent complements theorem
		f. definition of congruence
		g. given
		h. transitive property of congruence
		i. reflexive property of congruence

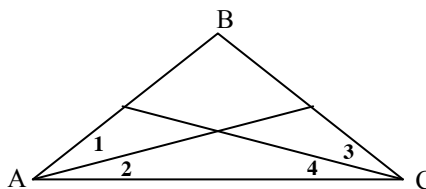
- 2) **Given:** $\angle 1$ and $\angle 2$ are supplements
 $\angle 3$ and $\angle 4$ are supplements
 $\angle 1 \cong \angle 4$
Prove: $\angle 2 \cong \angle 3$



Statement	Reason	Multiple Choices
1. $\angle 1$ and $\angle 2$ are supplements $\angle 3$ and $\angle 4$ are supplements	1. _____	a. addition property of equality
2. $m\angle 1 + m\angle 2 = 180^\circ$ $m\angle 3 + m\angle 4 = 180^\circ$	2. _____	b. subtraction property of equality
3. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	3. _____	c. substitution property of equality
4. $\angle 1 \cong \angle 4$	4. _____	d. transitive property of equality
5. $m\angle 1 = m\angle 4$	5. _____	e. definition of supplementary angles
6. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 1$	6. _____	f. definition of congruence
7. $m\angle 2 = m\angle 3$	7. _____	g. definition of linear pair
8. $\angle 2 \cong \angle 3$	8. _____	h. linear pair postulate
		i. congruent supplements theorem
		j. angle addition postulate
		k. given

- 3) **Given:** $\angle 1 \cong \angle 2$, $\angle 2 \cong \angle 3$, $\angle 3 \cong \angle 4$

Prove: $m\angle 1 = m\angle 4$



Statement	Reason
1. $\angle 1 \cong \angle 2$, $\angle 2 \cong \angle 3$	1. _____
2. $\angle 1 \cong \angle 3$	2. _____
3. $\angle 3 \cong \angle 4$	3. _____
4. $\angle 1 \cong \angle 4$	4. _____
5. $m\angle 1 = m\angle 4$	5. _____

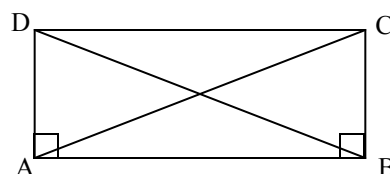
Multiple Choices

- vertical angles theorem
- congruent complements theorem
- right angle congruence theorem
- given
- reflexive property of **congruence**
- transitive property of **congruence**
- symmetric property of **congruence**
- definition of congruence

- 4) **Given:** $\angle DAB$ and $\angle ABC$ are right angles

$$\angle ABC \cong \angle BCD$$

Prove: $m\angle DAB = m\angle BCD$



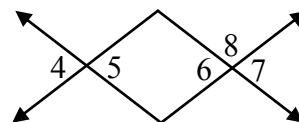
Statement	Reason
1. $\angle DAB$ and $\angle ABC$ are right angles	1. _____
2. $\angle DAB \cong \angle ABC$	2. _____
3. $\angle ABC \cong \angle BCD$	3. _____
4. $\angle DAB \cong \angle BCD$	4. _____
5. $m\angle DAB = m\angle BCD$	5. _____

Multiple Choices

- given
- substitution property of equality
- transitive property of **congruence**
- symmetric property of **congruence**
- linear pair postulate
- definition of congruence
- congruent complements theorem
- right angle congruence theorem
- angle addition postulate

- 5) **Given:** $\angle 5 \cong \angle 7$, $\angle 4$ and $\angle 5$ are vertical angles, $\angle 7$ and $\angle 8$ form a linear pair

Prove: $m\angle 4 + m\angle 8 = 180^\circ$



Statement	Reason
1. $\angle 7$ and $\angle 8$ form a linear pair	1. _____
2. $\angle 7$ and $\angle 8$ are supplementary	2. _____
3. $m\angle 7 + m\angle 8 = 180^\circ$	3. _____
4. $\angle 4$ and $\angle 5$ are vertical angles	4. _____
5. $\angle 4 \cong \angle 5$	5. _____
6. $\angle 5 \cong \angle 7$	6. _____
7. $\angle 4 \cong \angle 7$	7. _____
8. $m\angle 4 = m\angle 7$	8. _____
9. $m\angle 4 + m\angle 8 = 180^\circ$	9. _____

Multiple Choices

- given
- substitution property of equality
- transitive property of **congruence**
- symmetric property of **congruence**
- linear pair postulate
- definition of congruence
- definition of supplementary angles
- congruent supplements theorem
- right angle congruence theorem
- angle addition postulate
- vertical angle theorem

- 6) **Given:** $\angle 1$ and $\angle 3$ are complements
 $\angle 2$ and $\angle 4$ are complements
 $\angle 1 \cong \angle 4$

Prove: $\angle 2 \cong \angle 3$

Statement	Reason
1. $\angle 1$ and $\angle 3$ are complements $\angle 2$ and $\angle 4$ are complements	1. _____
2. $m\angle 1 + m\angle 3 = 90^\circ$ $m\angle 2 + m\angle 4 = 90^\circ$	2. _____
3. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 4$	3. _____
4. $\angle 1 \cong \angle 4$	4. _____
5. $m\angle 1 = m\angle 4$	5. _____
6. $m\angle 1 + m\angle 3 = m\angle 2 + m\angle 1$	6. _____
7. $m\angle 3 = m\angle 2$	7. _____
8. $\angle 3 \cong \angle 2$	8. _____
9. $\angle 2 \cong \angle 3$	9. _____

Multiple Choices

- given
- transitive property of equality
- reflexive property of **congruence**
- symmetric property of **congruence**
- substitution
- definition of congruence
- definition of complementary angles
- definition of supplementary angles
- segment addition postulate
- right angle congruence theorem
- congruent supplements theorem
- congruent complements theorem
- linear pair postulate
- vertical angles theorem
- addition property of equality
- subtraction property of equality

ANSWERS:

Proof #1:

1. G
2. B
3. I
4. D
5. F

Proof #2

1. K
2. E
3. D or C
4. K
5. F
6. C
7. B
8. F

Proof #3

1. D
2. F
3. D
4. F
5. H

Proof #4

1. A
2. H
3. A
4. C or B
5. F

Proof #5

1. A
2. E
3. G
4. A
5. K
6. A
7. C or B
8. F
9. B

Proof #6

1. A
2. G
3. B or E
4. A
5. F
6. E
7. P
8. F
9. D